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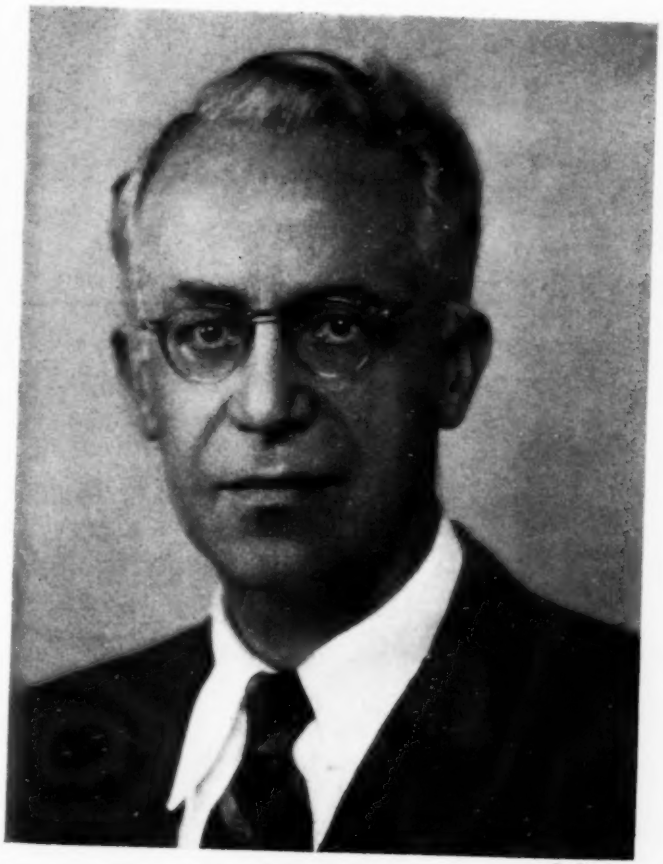

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DR. EDUARD FARBER

(See page 416)

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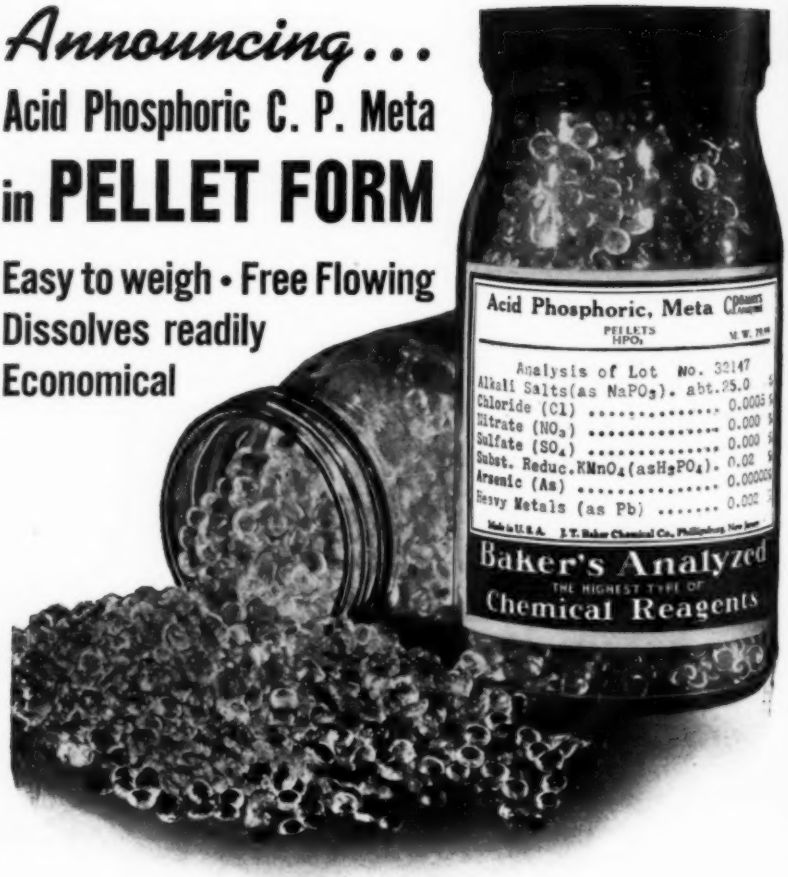

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IN THIS ISSUE

SCHEDULED FOR EARLY ISSUES OF THE CHEMIST:

"How to Submit Your Invention to a Corporation," by Paul L. Gomory.
"Opportunities in Chemical Market Research," by John P. Duane.
"The Ethics of the Research Worker," by Louis Elsberg Wise.
"Early History of the A.I.C.," by Dr. Lloyd Van Doren, Secretary A.I.C.
"Visit to a Flax Paper Mill."
Report of the Chicago A.I.C. Chapter Committee on Professional and Economic Status.
Other articles of professional interest.

SPECIAL ISSUE

The May, 1948, issue of THE CHEMIST will commemorate the twenty-fifth Anniversary Year of THE AMERICAN INSTITUTE OF CHEMISTS. Special features are planned for this number.

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Opportunities for U. S. Chemists in South America

J. N. TAYLOR, F.A.I.C.

TRAVELERS returning from Latin America and dispatches from countries below the Rio Grande both report a high degree of industrialization in that area in recent years, especially during and subsequent to the war. This industrial expansion logically calls for considerable fundamental and applied research as well as plant engineering and process control. Consequently a greater demand undoubtedly exists in Latin America for the services of chemists.

It is doubtful, however, if many positions are available to United States chemists on a permanent basis. Some countries are glad to have the loan of our scientists (1) for short periods. However, in times of peace every country is eager to encourage visits and even long-term residence by foreigners provided they do not seek to obtain paid employment, states the U. S. Department of Commerce. (2) The visiting applicant for employment, on the contrary, is unwelcome almost everywhere. Naturally certain exceptions have to be made. Branch offices of foreign companies, spending large sums on rent and taxes, are allowed to employ a limited number of citizens of their home country, for a stipulated period, for two purposes, namely, for handling confidential correspondence or other confidential matters, and for employment in installing or servicing an imported foreign specialty or in training a group of native workers to service it. After a reasonable period the immigration authorities are inclined to urge the visitors' removal from the pay roll and the substitution of native employees.

Officials (3) of the Department reported last Spring a considerable degree of commercial activity. Most of the Latin American countries had huge export surplusses during the war and the world demand for these

(1) C. C. Concannon, Chief of the Chemical and Drug Division, U.S. Dept. of Commerce, has done outstanding work as a consultant to foreign governments. He was on loan from the Department to the Government of Chile in 1942-43 and to Peru in 1945 to survey the chemical field and to assist in the industrialization of these countries.

(2) Circular prepared in the American Republics Division, Office of International Trade, Sept. 6, 1946.

(3) Thomas D. O'Keefe and George Wythe, officials in the Office of International Trade, who made a three-month visit to 15 American Republics. Press Release, May 26, 1947.

exports continues strong. However, there has been a steady increase in imports, and merchandise is now arriving in greater volume than many ports can handle, with resultant serious congestion. There is evidence, in some lines, of inventory overstocking on the part of Latin American businessmen, but the backlog of unsatisfied demand is large. There is a serious shortage of some products such as tinplate, caustic soda and textile machinery. In some Latin American countries exchange reserves are dwindling and the governments have taken steps to restrict merchandise imports, either through requiring import licenses or through exchange controls.

It was also reported [4] that the Latin American countries have increased their financial resources and productive facilities. Many new factories have been erected, some of them housed in very fine modern buildings. A considerable number of American firms have expanded their branch factory operations, or have entered into joint arrangements with local investors. In the established lines of manufacture the larger Latin American countries have developed the necessary local talent, but foreign technical assistance is required to establish new undertakings. While foreign capital is required for very large undertakings, it is the foreign technical skill and management methods that are needed more than capital in the case of many manufacturing operations.

Although technical skill is needed there is an increasing tendency, says the Department [2] on the part of the Latin American countries to limit openings in the professional field to their nationals. Although there are at present a number of doctors, dentists, and engineers practicing in the Latin American countries, they have either been resident there for many years or have gone to those countries under contract with American firms operating foreign mines or other enterprises. In addition to outright decrees designed to restrict the employment of aliens, those countries require applicants in many fields of professional endeavor, particularly in the medical, dental, and engineering professions, to stand designedly rigorous examinations in all the subjects of their profession, these examinations being conducted in the language of the country. In some cases, engineers are required to post a substantial sum of money, this fee being an amount equivalent to the cost of educating a national of the country in their profession.

Those who consider taking up residence in Latin America in a professional capacity over a long period of time should obtain full details as to the technical requirements to be met abroad before they would be per-

(4) Report on Latin America. Address by George Wythe, Chief, American Republics Division, Office of International Trade, U.S. Dept. of Commerce. Prepared for World Trade Week Conference, St. Louis, Mo., May 22, 1947.

mitted to practice their profession.

In the absence of a special survey it is difficult to appraise the employment situation in Latin America with special reference to chemists. An approach, however, may be made through a review of new plants being built there and the current status of the chemical industry in those countries. Indeed, this type of information is the key to an intelligent understanding of international relations. Through technologic and economic influences and trends, chemistry is recognized as basic to all industry and chemical industry today exercises a profound influence upon the political economy of the world.

Since a comprehensive picture of Latin American chemical growth is not presently available it is believed that information with respect to the growth of the sulfuric acid and alkali manufacture and their use-patterns will reflect the situation in chemical manufacture specifically and of industry in general. These may be assumed to be co-indicators of industrial progress.

W. R. Koster in his excellent review [5] of the increase in production facilities of sulfuric acid in Latin America aptly states that a chemical industry, like a steel or textile industry, is one of the fundamental building stones upon which a nation becomes industrialized; evidences of growth in these and similar basic enterprises reveal the progress of its industrialization. Mr. Koster goes on to say that because the acid is a basic material for the manufacture of a host of other products it is a primary requirement in chemical self-sufficiency. He points out that current demand in Latin America has raised output to approximately twice the prewar figure. As previously noted, the alkalies are also basic materials in chemical and allied manufacture.

The following summarizations for principal Latin American countries have been abstracted from Mr. Koster's article and from reports published in the Department's Industrial Reference Service [6]. For further information regarding chemical developments abroad, the reader is referred to the Department of Commerce.

(5) Koster, W. R., Sulfuric-Acid Industry's Development in Latin America. Chemical and Drug Division, Office of International Trade, U.S. Dept. of Commerce. Foreign Commerce Weekly, Aug. 9, 1947. (Available from Superintendent of Documents, Washington 25, D.C. 15 cents).

(6) Industrial Reference Service. Publication of U.S. Dept. of Commerce, Office of International Trade. Part 2, Chemicals, Drugs & Pharmaceuticals.

Argentina

Total sulfuric acid production of existing plants in Argentina was 66,840 metric tons in 1946 (98 per cent H_2SO_4 basis). Of this quantity, 45,240 tons were contact acid and 21,600 tons were chamber acid. Total capacity of the

contact plants is placed at 52,140 metric tons, and at 24,000 tons for the chamber plants.

In 1946 there were four contact plants in the Buenos Aires region, one of which was new that year and was using sulfur dioxide from a zinc plant as a source of sulfur. One other contact plant, a Government explosives factory, existed in the Province of Cordoba. This plant consumed its entire acid output. As to chamber plants, there were three in the Buenos Aires area. One is connected with the Ministry of Industry and Commerce, and another with the Ministry of Public Works. The latter consumed its entire output in the manufacture of aluminum sulfate for water purification purposes.

Three new contact plants were known to be under construction or consideration. One, in the Province of Santa Fe, is to be a large unit designed to use sulfur dioxide from the waste gases of a zinc plant. Another, in Cordoba, would be associated with the Government explosives factory mentioned above, and would also utilize sulfur dioxide from a zinc plant. The third was contemplated for construction in Mendoza and might utilize some of its acid for production of copper sulfate. Combined capacities of these prospective plants, if realized, would double the 1946 production.

No soda ash is produced in Argentina.

Consumption

While average annual consumption, based on imports, rose from approximatel 25,000 metric tons during the period of 1938 through 1942, to 65,000 tons during 1943, a pronounced shortage developed during 1944 and the first semester of 1945, imports having dropped drastically due to shipping difficulties during the latter stages of the war.

Most of the soda ash used in Argentina consists of the 58 per cent dense grade. The utilization of soda ash in this country is best revealed by the following pattern of consumption:

Consumers	*Per cent*
Glassmakers	49.9
Tanning manufacturers	8.9
Manufacturers of chemical and medicinal products	8.5
Metallurgical industries, foundries, electroplating industry, lead refineries	1.2
Public and National Administration	1.2
Meat packing plants, tanneries and wool scourers	9.6
Manufacturers of soap, alkaline, hypochlorite and crystal soda	9.2
Dyers, textile mills and laundries	7.8
Miscellaneous	3.7
Total	100.0

A number of firms operating electrolytic cells produce a total of 18,000 tons of liquid caustic soda per year. Approximately 10,000 tons are converted to sodium hypochlorite solution (10-12 per cent available chlorine), 4,000 tons are resold to meat packers and oil companies, and the remaining 4,000 tons are consumed by the producer. No solid caustic soda is produced

in Argentina. It should be noted that the total capacity of the electrolytic cells is far in excess of the above figure, the output being limited by the market for chlorine and hypochlorite solutions.

Consumption

In addition to the 18,000 tons produced locally, Argentina imported an average of 19,600 metric tons of caustic soda annually during the years 1938 to 1941 inclusive. Consumption increased appreciably during 1942 and 1943, due to increased activities of the vegetable oil and textile industries, average consumption for 1942 and 1943, being estimated at 50,000 metric tons annually.

The following pattern of consumption, covering a period of nine months, summarizes the prewar utilization of caustic soda in Argentina.

Consumers	*Per cent*
Edible vegetable oil refineries	5.4
Sugar mills and refineries	1.2
Soap manufacturers (including meat-packing plants)	57.3
Rayon factories	8.2
Manufacturers of industrial and medicinal chemicals	10.2
Oil distilleries and refineries	3.9
Textile and spinning mills	3.6
Cellulose manufacturers	1.8
Miscellaneous	8.4
Total	100.0

Brazil

Production of Brazil's twelve existing plants was at the rate of about 74,460 metric tons in 1946 (basis 100 per cent H_2SO_4), with capacity estimated at 83,585 tons. The portion of production originating in contact plants is estimated to be 42,340 tons. Total capacity of the four prospective plants would approximate 25,000 tons per year.

Of the 12 plants operating in 1946, 10 were in the Sao Paulo area. Two of the latter were contact units which sold a part of their production and consumed part themselves—one making aluminum sulfate. The eight other Sao Paulo plants were chamber units. One specialized in a special denitrated-grade acid; one used its entire output for production of superphosphate; and one plant used its output for the manufacture of aluminum sulfate. At least one plant utilized sulfur dioxide from the waste gases of a zinc plant as a source of sulfur, and one plant sold its entire output of acid.

The end uses of sulfuric acid in Brazil in 1946, in the approximate order of their importance, were: rayon manufacture; nitric and hydrochloric acid manufacture; textile industry; leather industry; manufacture of aluminum sulfate, explosives, fertilizer; in metallurgy; sugar refining; and preparation of other chemicals. Imports have been of negligible importance, Brazil being quite self-sufficient with respect to sulfuric acid.

There is no production of soda ash on a commercial scale. Construction of a plant to produce 50,000 tons of soda ash annually is under consideration.

Part of the output would be converted into caustic soda. Bids for construction have been received from American engineering firms and are now under study.

Consumption

The present annual consumption of soda ash is at the rate of between 25,000 and 30,000 metric tons. Distribution of main uses is approximately as follows:

Consumers	*Per cent*
Glass industry	57
Chemical industry	11
Soap and candle industry	9
Textile industry	7
Paint industry	2
Laundries and cleaners	2
Dealers	7
Others	5
Total	100

Because of the national industrial expansion, the consumption trend is definitely upward, the greatest consumption being in the Sao Paulo district.

Chile

The largest portion of sulfuric-acid production in Chile is "captive," that is, essentially all consumed by the manufacturers, who are the copper companies and the Government (explosives plant). Two private plants other than the aforementioned were producing in 1946. One was a chamber plant in Santiago which has been operating for many years and which sells most of its output. The other was a contact plant in Quillota, which began production in 1946 for the first time. This plant sold only part of its output. A second chamber plant located in the Santiago area, was not producing in 1946, and a second contact plant (in the Santiago area also) was being built in 1946. There was also a contact plant contemplated for construction at Vina del Mar, but production would not be possible until 1948-49 at least, even if the project were eventually realized.

Average annual production of the two plants operating in Santiago during 1943-44-45 was about 3,161 metric tons of 78 per cent acid and 846 metric tons of 93 per cent acid. Total capacity of plants in Santiago and Quillota is probably about 10,000 tons per year of 78 per cent acid. Demand in 1947-48 is expected to increase 25 or 30 per cent exclusive of any new rayon plants that may require acid.

Consumption

The approximate use-pattern for sulfuric acid in 1946 was:

Consumers	*Per cent*
Rayon manufacturers	30
Aluminum salts producers	30
Coal-tar dye producers	25
Miscellaneous	15

Colombia

Colombia's first sulfuric-acid plant began operating at Medellin in 1941. A contact plant, it has increased its rate of output somewhat since first starting operations, and was contemplating a further increase last year. A second contact plant was under construction in 1946 at Barranquilla in connection with a rayon plant there. Recent information indicates that production of acid started toward the middle of 1947.

Combined capacity of these plants is expected to exceed 9,000 metric tons per year if the second plant operates as planned. Average annual consumption from 1938 to 1942 was about 745 tons, with Germany and the United States the principal prewar suppliers. If production reaches the planned level, the country will probably be self-sufficient.

One hundred metric tons of caustic soda (sodium hydroxide) is produced annually by one company as a co-product of chlorine. This production should greatly increase in the future, but it is expected that it will be some time before Colombia can become self-sufficient in this commodity. Production has been retarded because of lack of supplies from the United States for manufacturing chlorine, such as graphite electrodes, asbestos, paper, putty, and calcium chloride.

Consumption

Consumption of caustic soda on the whole parallels importation. The following percentage of the end-uses is representative of the consumption in Colombia:

Consumers	*Per cent*
Soap industry	55
Textiles, cotton & rayon manufacture	33
Lard manufacturing	4
Petroleum refining	3
Miscellaneous, including tire mfr., brewery, soft drinks, dairy, sugar refining, cleaning, paper & railway	5

Cuba

Toward the end of 1944, Cuba's first sulfuric-acid plant was completed and began operations at Sagua la Grande. It is a contact plant and is supplying most of the Cuban requirements at present. A very high protective tariff had not entirely excluded United States exports in 1945 and 1946. Before that time, the country received its requirements by tank-car shipments via seatrain from the southeastern United States.

A factory established several years ago at Sagua la Grande, Las Villas Province, is the only producer of caustic soda in Cuba. Output is in the form of a solution containing approximately 50 per cent of sodium hydroxide. Virtually the entire annual output is sold under contract to one large Cuban soap manufacturer. Since 1943, this company has increased its output of caustic soda solution from 2,000,000 pounds to the present figure of 4,200,000 pounds (equivalent to 2,100,000 pounds of solid caustic soda) and it is believed that this is the limit of production.

Consumption

Cuba's average annual consumption during the years 1940-43 was approximately 14,000,000 pounds, practically all of which, except the out put of the local factory, was imported from the United States. Throughout this period, consumption by end uses was approximately as follows:

Industries	*Per cent* (1)
Soap	73
Sugar	11
Chemicals	1
Mining	4
Packing	1
Paper	(2)
Laundry	1
Foodstuffs	1
Petroleum	1
Textiles	3
Miscellaneous	4
Total	100

(1) Average for 1940-43
(2) Less than 1 per cent.

It is is believed that future consumption will closely follow this pattern.

Mexico

Although capacity of the seven sulfuric-acid plants in Mexico would provide about 58,800 metric tons of 98-100 per cent acid, actual 1946 production probably did not exceed 32,560 tons because of sporadic output of two plants. Imports have seldom exceeded 200 tons per year.

Of the seven plants existing in Mexico during 1946, two were chamber plants located in Mexico, D. F., but one of these has not been operating for some years. The other utilized its entire output in fertilizers. An important contact plant exists in Rosita, Coahuila, which uses sulfur dioxide from a zinc plant as its source of sulfur. A contact plant at Tampico, Tamaulipas, and another at Minatitlan, Vera Cruz, operate sporadically in conjunction with a Government-controlled petroleum company. A Government explosives plant at Santa Fe has a contact plant which is expected to furnish some acid for industrial use. The seventh plant (contact) began operations in February 1947. It is at San Luis Potosi, and output is expected to be used largely in fertilizers.

Two contact plants are contemplated—one for Mexico, D.F., and the other elsewhere, which would use sulfur dioxide from natural gas and produce ammonium sulfate at the same locality.

It is estimated that 33,416 short tons of sulfuric acid were consumed in 1945 in the following proportions by grades; fuming (105 per cent), 7,405 tons; chemically pure (98 ½ per cent), 7,725 tons; reagent grade (98

½ per cent), 38 tons; and industrial grade (93-95 per cent), 18,248 tons. Principal uses for the industrial grade are in mining, chemical manufacture, textiles, fertilizers, and pharmaceuticals.

There is no production of soda ash in Mexico at present.

A large-scale project, sponsored by the Mexican Government, has been under study for some years for the reclamation of the Texcoco lake bed, situated approximately 10 miles northeast of Mexico City. Pilot plant tests for the extraction of various chemical salts from the lake bed deposits have been successful. A contract has been signed with an American firm for the erection and operation of a plant for the production of soda ash and caustic soda from the lake bed deposits. Part of the machinery for this construction has already been shipped from the United States. Present estimates are that this plant should be in operation in 1947 and that production of commercial grade soda ash should be approximately 70 short tons per day.

Consumption

For 1946 and several succeeding years, Mexico's consumption of soda ash is estimated at aproximately 45,000 short tons per year. The annual dollar value of consumption should vary from $1,400,000 to $1,600,000 (U.S. currency). The consumption trend was upward during the war due mainly to expansion of production in the textile, glass, and mining industries. While production in these industries may decline somewhat in the postwar period, consumption of soda ash for the next few years will be considerably higher than before. During the war years due to shortage of supply in the United States and also to transportation difficulties, only 60 to 70 per cent of the glass industry's demand for soda ash was supplied. As no soda ash has been produced in Mexico in commercial quantities up to the present, consumption in past years is represented by the import figures, and averaged approximately 30,000 short tons per year for the past 4 years.

Consumption

The principal consuming industries and their locations are, as follows:

Industries	*Per cent*	
Glass	76	Mexico, D. F., Monterrey, Puebla, Guadalajara
Soap	8	Mexico, D. F., Monterrey, Durango, Guadalajara
Sodium silicate	6	Mexico, D. F., Monterrey
Textile	5	Mexico, D. F., Puebla, Guadalajara, Orizaba
Paper, chemical, mining, miscellaneous	5	Mexico, D. F. and balance of Republic.

At present, only one firm, with a plant in Mexico City, is capable of producing caustic soda in commercial quantities. This firm has averaged an annual output of 1,500 metric tons during the past five years. Almost all of this production is sold to the local refinery of Petroleos Mexicanos, the Government oil monopoly. From 1939 until 1943, a second firm, with a plant approximately 15 miles from Mexico City, produced small quantities of caustic soda from the Texcoco lake bed deposits. Due to insufficient capital and operational difficulties, production of this plant was suspended in 1943. At various times during the war years other companies showed interest in the production of

caustic soda, but due to a lack of capital, difficulty in obtaining essential equipment, and inability to obtain adequate technical supervision, these projects never reached the commercial stage.

Consumption

Principal consuming industries and their location are:

Industries	*Per cent*	
Soap	64	Mexico, D. F., Guadalajara, Monterrey, Durango
Petroleum	14	Tampico, Minatitlan, Mexico, D. F.
Textile	10	Mexico, D. F., Puebla, Guadalajara, Orizaba
Vegetable oil	8	Mexico, D. F., Torreon, Monterrey
Miscellaneous	4	

Peru

One plant in Peru, owned and operated by a large mining firm, supplies most of the country's acid requirements from its surplus capacity. Besides the refining of ores, the acid is used in making copper sulfate, insecticides, and other chemicals, in oil refining, and in various other minor processes. There are prospects of a new electrolytic zinc plant, to be partly Government-financed, and located at Chimbote. This would supply by-product sulfuric acid for fertilizer manufacture. At last reports, the project was a long way from realization.

Venezuela

Venezuela has no facilities for manufacturing sulfuric acid. Its consumption is considered approximately equal to imports, which averaged 868 metric tons per year from 1939 to 1944, inclusive. Although Venezuela has an ample supply of raw material for the production of soda ash, domestic output in past years has been unimportant. In the interior of the country there exists a rich natural deposit of crue sodium carbonate that has been under exploitation on and off and which was yielding, by the use of rather primitive methods for a short period in 1942, about 50 tons monthly. The quality, however, was very poor, containing high percentages of foreign matter. This coupled with the high cost of transportation to the industrial areas, forced the stoppage of the work.

Another potential source of raw material is the vast Government-owned salt mines from which a company organized in 1941 expected to produce soda ash, caustic soda and other sodium alkalies. This project suffered financial reverses and is at present inactive, although the owners plan to reestablish operations, asserting that when in operation their plant is capable of producing some 2,000 tons of soda ash annually.

Consumption

Official figures on consumption are founded only on import statistics, taking for granted that yearly importations represent the actual annual consumption. The import figures also include imports of sal soda as the Venezuelan tariff has but one classification covering crude sodium carbonate (sal soda) and anhydrous sodium carbonate (soda ash).

In most cases soda ash is imported directly by the consuming industries

which are: The national glass factory, soap manufacturers, the textile and paper mills, and caustic soda manufacturers.

There has been no local production of caustic soda since early in 1944 when the second of two plants established in Venezuela in recent years was forced to stop activities owing to financial and technical difficulties. It is worth noting, however, that extensive salt deposits in Venezuela provide an abundance of raw material for the manufacture of caustic soda and that from 1936 to 1941 the output of this material averaged over 800,000 kilograms, although part of the production came from the conversion of imported soda ash into caustic soda.

The two enterprises above mentioned, while inactive at the present time, have plans for the continuation of their operations in the future. They possess complete equipment and machinery to produce caustic soda from marine sodium chloride by the electrolytic method or through the process of converting soda ash (sodium carbonate calcined) of which there are rich national deposits, into caustic soda. It is asserted, furthermore, that these two factories when again functioning will be in a position to produce the entire quantity of caustic soda required in the country; one of the two plants alone, is said to have a capacity for a yearly output of 1,200 metric tons.

The largest consumers of caustic soda are the local soap manufacturers, the oil companies and the textile mills.

The Royal Institute of Chemistry

DR GUSTAV EGLOFF, F.A.I.C., spoke on the similarity between the objectives of the Royal Institute of Chemistry and those of THE AMERICAN INSTITUTE OF CHEMISTS, at a banquet held July ninth, at the Grand Hotel, St. Andrews, Scotland.

The objectives of The Royal Institute are succinctly expressed in its leaflet, which is quoted below:

The Royal Institute of Chemistry of Great Britain and Ireland

"Founded in 1877 and incorporated by Royal Charter in 1885, the Institute is the professional organization for chemists. Having as its primary object 'the elevation of the profession of Chemistry and the maintenance of the proficiency, integrity and usefulness of persons practising the same,' the Institute demands a high standard of qualification in chemistry for election to its Associateship (A.R.I.C.) and further specialized knowledge and experience in a selected branch of chemistry for election to the Fellowship (F.R.I.C.), and requires from its members—Fellows and Associates — the observance of professional ethics.

"Membership of the Institute (which is restricted to persons of British Nationality) exceeds 10,000 and includes men and women holding

every type of post in which a knowledge of chemistry is necessary or desirable—in almost every branch of industry, in research institutions, in Government and municipal services and in teaching (in universities, technical colleges and schools) as well as in private practice. There are also about 1,400 Registered Students of the Institute undergoing training in universities and recognized technical colleges.

"Lectures, including certain established memorial lectures, are given from time to time under the auspices of the Institute and extensive programmes of lectures and discussions are arranged at various centres in the British Isles and overseas by the Local Sections of the Institute.

"The publications of the Institute include the *Journal and Proceedings* (issued in six parts annually) and various lectures and monographs on subjects of current interest. The Institute has also published "The Profession of Chemistry," "Official Chemical Apointments," a Register of Fellows and Associates and a Directory of Independent Consultants in Chemistry and related subjects.

"Through the Chemical Council the Institute collaborates with the other two chartered chemical bodies —the Chemical Society and the Society of Chemical Industry—and with other more specialized societies in providing the wide variety of services that are required by chemists for the advancement of their science and the development of their usefulness to the community. Through the Joint Council of Professional Scientists the Institute maintains contacts with other professional organizations such as the Institute of Physics and the Institution of Metallurgists. Cordial relations have also been established with the corresponding chemical institutes in other parts of the British Commonwealth—in Australia, Canada, New Zealand and South Africa."

Sugar Cane Experimental Records Destroyed

The Government Botanic Gardens, Buitenzorg, Java, Netherlands Indies, report that the archives and library of the Experimental Station for Sugar Cane at Pasuruan, East Java, were totally destroyed by order of the Indonesian Republican authorities. The library contained detailed data relating to hybrid cane species, disease resistant strains, plant diseases, test plantings, soil research conservation and irrigation.

New Address

Alan Porter Lee, Inc., engineers have moved from 136 Liberty Street to 150 Broadway, New York 7, N. Y. Alan Porter Lee, F.A.I.C. was formerly editor of THE CHEMIST, of *Oil and Fat Industries,* technical editor of *Soap* and editor of *Oil and Soap.*

We Present the A. I. C. Chapters

The objectives of THE AMERICAN INSTITUTE OF CHEMISTS are carried out locally through its twelve chapters. These chapters will be presented to our membership from time to time in THE CHEMIST.

The Washington, D. C. Chapter

Dr. Eduard Farber, *Chairman*

THE Washington Chapter was established in 1923, soon after the national A.I.C. had been formed. Among those who organized the Chapter were, Dr. James F. Couch, R. B. Henley, Harry L. Lourie, W. C. Powick, and J. N. Taylor, of whom Dr. Couch was the first president and Mr. Taylor the first secretary. To enlarge the Chapter, the A.I.C. members in Baltimore were added. (Baltimore has since formed a separate chapter.) The growth of the Chapter was slow but steady. Impetus was noted after a visit by the first national president, Dr. H. G. Byers, who was entertained at a dinner on July 19, 1924. Dr. Byers later resided in Washington and has long been a member of this Chapter.

One of the early highlights was a meeting at the Bureau of Standards to notify Dr. William Blum that he had been awarded the first gold medal of THE AMERICAN INSTITUTE OF CHEMISTS. Another early event was the holding of the A.I.C. Annual Meeting, April 6, 1925, at Baltimore, when Dr. Crossley was national president. This stimulated much interest in the Washington area. Later, Annual Meetings were held in Washington when the A.I.C. medal for 1931 was awarded to Andrew W. and Richard B. Mellon, and when the medal for 1941 was awarded to Dr. Henry G. Knight.

Among those who have given of their time to serve as Chapter presidents are the following present members: Frank O. Lundstrom, Louis N. Markwood, Dr. O. E. May, A. L. Mehring, L. F Rader, James N. Taylor, and Dr. Colin W. Whittaker.

Most of the Chapter's members are in Government service. Many of them during the years have been promoted to positions in other places, but sometimes we have the pleasure of seeing some of them move back to Washington, like R. B. Deemer, a former president, did a little while ago.

Our attendance at meetings was understandably limited during the re-

cent war years, and when new members came to our meetings for the first time they were surprised to see so few present. However, they were immediately captivated by the congenial atmosphere, the high standard of discussion, and the very personal "touch." At present the number of younger members is increasing, and more will be done to interest them in our work.

Some of the topics of our discussions are individual to this Chapter. Problems connected with Civil Service and national legislation have been, and will continue to be, on our programs. This does not exclude more general topics. We have had lectures on atom fission, biochemical progress, psychology, and patents. Talks by officers of the national organization are occasions for special celebration.

At present, our activities are mostly confined to the official meetings. This was not always so, and we hope the time will come again when we can add luncheons and inspection trips to our regular activities. Many a story is told about such former extraordinary events.

Miss Elizabeth M. Hewston recently took over the arduous position of secretary. Royal E. Rostenbach continues as vice chairman, and Hyman I. Feinstein as treasurer. It was he who put up the warning sign against the increased cost of meeting at one of our big hotels. Through the kind efforts of Mrs. Colin W. Whittaker, we found less expensive and more suitable quarters in a central location. Instead of dinner preceding the meeting, we now have a coffee hour afterwards at which the ladies preside and prepare refreshments.

The next meeting will be held October 22nd, with Dr. James G. Vail, vice president of Philadelphia Quartz Company, as speaker. His topic is, "The Profession of Chemistry in the Light of History." The place of meeting is the lecture room of the Woodley Apartment House, Columbia Road, N. W. A.I.C. members who may be in Washington at this time are cordially invited to attend.

The Washington Chapter's Chairman

Dr. Eduard Farber is chief chemist of the Timber Engineering Company, 4812 Minnesota Avenue, N.E., Washington, D.C., where he is concerned with the chemistry of wood, the improvement of wood products, and the utilization of wood wastes.

He studied chemistry in Leipzig, Germany, where he received the Ph. D. degree in 1916. Leipzig was, at that time, still under the influence of Wilhelm Ostwald, which meant the use of physical methods in organic chemistry. Here, too, young Farber

was introduced to the study of philosophy which he found to be confusing but a definite challenge. He approached its mysteries through the study of the history of chemistry, which is still one of his active interests.

A short assistantship at the Kaiser Wilhelm Institute in Berlin, in Carl Neuberg's Institute, was interrupted by war work on the industrial production of glycerine by fermentation. From 1920 to 1938, as chief chemist of Bergius Industries, Heidelberg, he was engaged in the development of wood hydrolysis by means of hydrochloric acid. In 1937, he visited the United States, where he spoke before the American Chemical Society on, "New Developments in Wood Hydrolysis." After returning to Germany, he finally succeeded, "with some diplomacy and some heartbreak," in moving with his family, in 1938, to the United States. Here newly acquired friends enabled him to open a small laboratory, the Polyxor Chemical Company, in Connecticut.

He used his background of physical, organic, inorganic, and biological chemistry in the production of sugars and lignin from wood and agricultural crops with their conversion into alcohols, acids, yeast, and resins, partly as consultant to the Overly Biochemical Research Foundation, New York, N. Y.

In 1943 the laboratory of the Polyxor Chemical Company became a part of the Timber Engineering Company's laboratory, with Dr. Farber as the chief chemist.

In 1944, he became a citizen of the United States. He holds more than fifty United States and foreign patents. He has published numerous papers on organic chemistry, and several on the history of chemistry. He maintains that chemists could contribute more to the science, if they understood chemistry from the point of view of its historical development, and that through this knowledge, long-range research could be furthered.

Dr. Farber is a thorough scholar and a person of obvious culture. His decisions are not derived from selfish or impulsive action, but are founded on careful, impartial thinking. In matters affecting chemists, his conclusions show his deep humanitarian nature and his desire to help others. He joined the Washington Chapter in 1944. Afterward, he spoke at its December 1945 meeting, on "National Science Legislation." (See THE CHEMIST, March, 1946). He believes that his talk may have had something to do with his being elected to the chairmanship of the Chapter the following year.

Christensen with National Agrol

Leo M. Christensen, F.A.I.C., is now with the Research and Engineering Division of National Agrol Company, Lincoln 5, Nebraska.

The Speech Which Secured Action

For a speech which he made in 1940, Dr. George D. Palmer, F.A.I.C., was presented the Plaque of Appreciation of the Southern Association of Science and Industry at its meeting, held June thirtieth in Birmingham, Alabama.

Dr. Palmer's 1940 speech was entitled, "Scientific Research, the Hope of the South." In it he recounted some of the achievements of research during the depression, and then continued:

"As a result of this tremendous amount of research activity in the United States (about $500,000,000 annually), the following rule stands out in bold relief: The prosperity of a region is roughly proportioned to the number of patents taken out in that region . . .

"The South's number one problem is the utilization of its natural resources through scientific research . . .

"What steps shall be taken to enable the South to utilize its own natural resources? The general answer is—simply build up scientific research organizations similar to those in the North and Far West . . . We should develop our own scientific research organizations for work on Southern resources."

This speech inspired action. Both the Southern Research Institute and the Southern Association of Science and Industry were founded, and several million dollars were raised to promote and coordinate research in the South. The Southern Research Institute has its headquarters at Birmingham, Alabama, and the Southern Association of Science and Industry, organized at Mobile in 1941, now has its headquarters at Richmond, Virginia.

Padlon Becomes Member of Patent Firm

Joseph F. Padlon, F.A.I.C., is now associated with Allen A. Dicke and Bromley Seeley, under the firm name of Dicke, Padlon and Seeley, 120 Broadway, New York 5, N. Y., patent and trade-mark attorneys. Mr. Padlon, formerly colonel, Chemical Warfare Service, A.U.S., specializes in chemical patents and in trademarks. Mr. Seeley, recently head of the patent department of Curtiss-Wright Corporation, Development Division specializes in mechanical and electrical patent matters.

Mattiello Attends International Congress of Paint Industry

Dr. Joseph J. Mattiello, vice president A.I.C., and vice president and technical director of Hilo Varnish Corporation, is in Paris attending the first Technical International Congress of the paint and associated industries, October 1st to 17th. He is representing the Federation of Paint and Varnish Production Clubs and the National Paint, Varnish and Lacquer Association.

A.I.C. Continues Support of New York Municipal Chemists

THE AMERICAN INSTITUTE OF CHEMISTS, in September 1946, heartily endorsed the classification of chemists which was proposed to the Board of Estimate of the city of New York by the Association of Municipal Chemists. Letters were sent to the various city officials, and a representative of the A.I.C. was prepared to be present at any hearings held on the subject. (See The Chemist, October, 1946.)

Despite all efforts, the needed adjustments in classifications and salaries have not yet been made. This summer, Dr. Foster D. Snell, president, A.I.C., after conference with the A.I.C. Committee appointed to recommend further action, wrote to the Mayor of the city of New York. This letter, the reply, and a recent letter to the Director of the Budget follow:

June 23, 1947

To: Mr. William O'Dwyer, Mayor
City of New York
New York:

I am writing you at this time as President of The American Institute of Chemists, the professional organization of chemists, at the instruction of the governing body of that organization.

Attached is a printed copy of the petition submitted to the Board of Estimate on behalf of the city chemists, on which to the best of our knowledge there has been no action. The group is a small one in terms of employee classifications in our city, only about 125 in number.

These people, trained by education and experience, perform necessary functions in the economic organization of our city, functions which cannot be spared. Their compensation is out of line with either industry or the federal government. For brevity I want to direct your attention to graphs.

Figure 1 on page 4 shows that these chemists in 1945-6 received basic salaries which were in general less than half those of the profession as a whole in 1943.

Figure II on page 5 further confirms that in terms of their years of experience.

Figure III on page 7 gives a different comparison in terms of a large group of professional employees,

teachers, and this small group of professional employees, chemists.

The table on page 3 shows the unfavorable comparison of New York City salaries with those in federal service.

We feel sure that this treatment of a small group of city employees is inadvertent. The cost of putting these professional men on a parity with federal employees will not be great. The present high cost of living in our city makes it imperative that they receive not less than the federal scale in order to live on a basis commensurate with performing their best services for our city.

Unfortunately, I shall not be available for a conference until after August 5th, due to necessary absence from the country as a representative of the National Research Council. As a matter of fact, I shall have sailed by the time this letter comes to your attention. It is requested that an appointment be set for a date around the middle of August at your convenience. I know that the matter is minor as compared with many of your problems, but to each of these 125 men it is an individual major problem. Your cooperation is solicited.

—Foster Dee Snell, President

June 27, 1947

To: Mr. Foster D. Snell:

This is to acknowledge receipt of your letter of June 23, 1947 addressed to his honor, the Mayor, concerning the matter of salary and grade readjustments for the Chemical Service.

I am referring your letter to the Director of the Budget for his study and consideration.

—Louis Cohen,
Assistant to the Mayor

September 11, 1947

To Director of the Budget
City Hall, New York, N. Y.

Under date of June 23rd I wrote to the Mayor on behalf of the city chemists.

Under date of June 27th I was advised by Louis Cohen, Assistant to the Mayor, that this letter had been referred to you.

The next to the last sentence is significant. "I know that the matter is minor as compared to many of your problems, but to each of these 125 men it is an individual major problem." We of The American Institute of Chemists would appreciate being advised as to action taken or contemplated.

—Foster Dee Snell

Modern Consulting Laboratories are Aid to Industry Progress

(Reprinted through the courtesy of the *Journal of Commerce,* New York.)

F. D. Snell, Inc.

Research starts in the Library where previous work is recorded.

IN a series of "at homes", visitors were recently shown the operation and lay-out of a modern consulting laboratory, when Foster D. Snell, Inc., moved into their new building at 29 West 15th Street, New York 11, N.Y.

This laboratory was originally started in the late 1920's by Foster D. Snell, shortly after he received the Ph.D. degree in chemistry from Columbia University. He and Cornelia Snell, who also holds the doctor's degree in chemistry, then became one of the few successful husband-and-wife teams in the chemical industry.

Wide Range of Clients

Their clients come from several sources. Some are companies which have chemical laboratories but who need specialized advice, research, or equipment. Other clients, without laboratories, use the consulting laboratories for their work. Some are large firms with intermittent need for chemical service, and some are small chemical manufacturing firms who need specialized research.

The fundamental basis for charges is the time required to carry out the work. Each member of the staff has an assigned charge rate per hour. Thus the total charge will be based on the sum of time-charges of the individuals working on the problem.

A consulting laboratory has certain restrictions under which it operates. Research may not be carried on for competitive firms. The names of its clients may not be dis-

F. D. Snell, Inc.

Hydrogen ion concentrations are measured electrically by this delicate apparatus.

closed except by permission from the clients. It may not do research, experimental or development work on a product which has been developed by it for the exclusive use of another client.

It is not desirable that it invest in the business of a client, or that clients own any share in it. It does not solicit work which is being handled satisfactorily by another organization or individual. As a general principle, patent rights in an invention applicable to a client's business belong solely to the client supporting the research on which the patent is based.

Necessity to Modern Business

The consulting laboratory is a necessity to modern business, which, as Dr. Snell says, "is too complex for any man to know all the answers in every field. On problems requiring chemical knowledge, industry often turns to the chemical consultant."

The present staff of the laboratories numbers over fifty technical persons, including research coordinators, Leonard Carl Cartwright, Dr. Albert F. Guiteras, and Cyril S. Kimball; research directors, Irving Reich, Dan Schoenholz, and Dr. Chester A. Snell; group and project leaders, Bernard Berkeley, Irving Cantor, Toshio Hirata, Patricia H. Kelley, Herbert Terry; director of analytical department, Richard E. Borup; director of bacteriological department, Rebecca L. Shapiro; director of engineering department, Gustave E. Kidde; director of rubber research, Dr. J. Mitchell Fain; director of plastics research, Dr. E. R. Hanson; director of market research, Dr. John Skeen; medical director, Dr. Roger F. Lapham; and patent counsel, Dr. Robert Calvert.

At the end of 1945, the Snell corporation, financed through stock and debentures by its emloyees, purchased an entire ten-story building at the new address, and proceeded to remodel one of New York's dingy loft structures into a modernistic home. The black metal fire escapes which defaced the front were painted into silver filagree. The sooty stone of the first floor was replaced by a wall

of fluted, translucent glass, flanked by an attractive entrance.

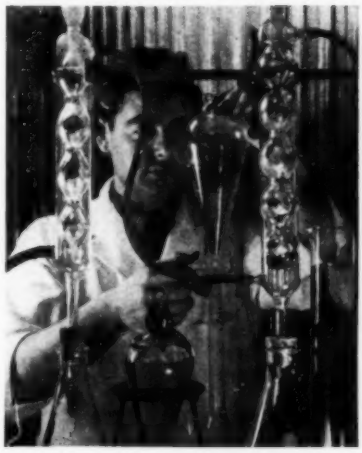
Inside, the pale green walls are decorated with photographs of chemical subjects and a display case exhibits interesting items developed in the laboratories. The current exhibits range from colored plastics made from wood, through "Magic Metal Cleaner," detergent compounds, aloes from Aruba, natural and synthetic rubber adhesives, "Nylon Suds," plastic beads, and patch tests for cosmetics.

New Paint Product

Throughout the building, the walls repeat the pale green of the reception hall, and these walls, themselves, are an exhibit of a new product made in the laboratories. The paint is "Gelva," made from a water dispersion of polyvinyl resin, which dries in half an hour without odor to yield a hard, durable film. George O. Morrison, technical director of Shawinigan Products Corp., carried "Gelva" through its earliest stages. Then the research and development work to achieve the final product was done in the Snell laboratories.

The new building is approximately twenty-five feet wide and one hundred feet long, a floor space which easily lends itself to division into three parts. In general, each floor is divided into offices at the front, and two laboratory or service spaces at the back.

The tenth floor contains the ether extraction laboratory, an analytical laboratory, a room for washing glassware, and an office for the director of the analytical laboratory.



F. D. Snell, Inc.

Organic chemistry requires intricate glassware.

The services on this floor handle a wide variety of chemical analyses, and provide service to the research and development groups, as well as to clients who want products examined for defects, analyses to determine compliance with quality specifications, comparison with competitors' products, and detection of patent infringement.

On the ninth floor is Dr. Snell's large office which doubles as a conference room. Adjoining it are the laboratories in which research groups

F. D. Snell, Inc.

Microscopes are census agents for counting and identifying microbes.

under his direction work. The groups here were largely concerned with surface-active agents and so the presence of a large number of washing machines at the rear was not too surprising.

Adds Market Research

The general offices are on the eighth floor. Here also is the office of market research, a new service inaugurated this month with the addition to the staff of Dr. John R. Skeen, formerly of the business and industries division of the Bureau of Internal Revenue. His department appraises markets for present products, estimates markets for new chemical products, analyzes factors influencing production and sales, defines sales areas, evaluates the competitive positions of producers, and watches trends which may affect future consumption.

On the floor below are located the office of Cyril S. Kimball, vice president, and the laboratories where research groups under his direction work. The sixth floor holds the storeroom for old records, which is kept locked; files concerning trade products, a synthetic organic laboratory and a small library. The ready access to New York's fine technical libraries makes larger space unnecessary. A guest office is also provided here for out-of-town clients.

A protective-coating laboratory and group and project leaders' offices occupy the fifth floor. The fourth floor is devoted to bacteriology and toxicology.

On this floor, germicides, fungicides and insecticides are tested or formulated as new products. Bacterial counts are made on food, water and other materials. The toxicity of drugs or other products is determined on experimental animals, as are the irritating properties of cosmetics, fabrics and manufacturers' raw materials.

The third floor contains the engineering and drafting departments, the controlled temperature and humidity rooms, cabinets, and a physical measurement laboratory. Engineering service is offered for the development,

design and installation of processes, plants and equipment.

On the second floor are located the stock room, a baking research laboratory and a workshop. Behind the reception room on the first floor is a pilot plant area. Food processing equipment had just been removed and a rubber and plastic mill installed. A machine was running busily to turn out coated shoe strings. Several electric stoves were being tested.

These laboratories have served manufacturers who make textile products, inks, food products, emulsions, insecticides, disinfectants, rubber products and plastics, asphaltic products, distilled liquors, paper, adhesives, soap and other detergents, alkalies, glass, petroleum, paints, medicinals, abrasives, polishes and many other materials.

Chemical Industries Exposition

The Chemical Industries Exposition to be held in New York, N. Y., December first to sixteenth, reports that all space has been taken. A.I.C. members on the advisory committee for the exposition include: Dr. Wallace Cohoe, president of The Chemists' Club, New York; Walter J. Murphy, editor *Chemical and Engineering News;* Dr. W. T. Read, of the General Staff of the War Department; Robert L. Taylor, editor, *Chemical Industries,* and Dr. E. R. Weidlein, director, the Mellon Institute.

Organization

(Presented through the courtesy of the *Clarkson Letter*, September, 1947)

W. Nye Smith, Jr.

MANY of America's successful men have been asked how they think they became so successful. Very noticeable among their answers has been one sure conviction—few men become successful unless they learn how to organize.

Success depends a great deal on accomplishment. Accomplishment depends on ability, ambition, and organization. Omitting any one of these prerequisites will seriously hamper any man's success. Ability comes from intelligence, education, and experience. Ambition depends upon human circumstances. Organization, however, is nothing more than utilizing ability, ambition, and will-power to get the most accomplishment in the least time and with the least effort.

"Any job worth doing is worth doing well," is a well-known adage. The best way to do a job is to organize it so as to utilize your time to the best possible advantage. A few simple rules of organization for any task should be:

1. Determine when you should finish the task and how much time you can allot to its completion.

2. Delegate as much of the task as possible to subordinates, and be sure they can adequately perform their part in time for you to use their results and complete the task.

3. Estimate the amount of time you will need for your part of the task and set aside definite times when you can be sure of concentrating without interruption.

4. Leave a margin of time. Don't wait until the last minute.

5. Alter your plans only when dictated by obvious advantages. Changing your plans will cause confusion and loss of time.

6. Insist on strict compliance with your rules or organization of work as it applies to subordinates.

7. Delegate your work in such manner as to allow as much use of individual initiative and ability as possible.

In climbing the ladder of success, the higher you climb, the more complex are your duties and responsibilities and the more you must organize and delegate your work. You cannot forget the importance of securing the loyalty and cooperation of your subordinates. This loyalty and cooperation can only be secured by you. Organization, however, is the key to your success.

Necrology

Treat B. Johnson

Dr. Treat B. Johnson, retired professor of organic chemistry, Yale University, and past president of THE AMERICAN INSTITUTE OF CHEMISTS, died July 28th at the age of seventy-two.

He was born in Bethany, Connecticut, and educated at Yale. After receiving the Ph. D. degree in organic chemistry in 1901, he became instructor, assistant professor, associate profesor, and Sterling professor of chemistry. In 1943, when he had completed forty-nine years of association with Yale University, he retired.

He was the author of several hundred scientific papers which resulted from his extensive research in organic chemistry and biochemistry During World War I, he conducted investigations in organic chemistry for the Chemical Warfare Service and operated a field laboratory at Yale on various phases of gas warfare. Some of his best known work was done on the bacillus of tuberculosis for the National Tuberculosis Association. For his researches on pyrimidine chemistry he was awarded the 1918 Nichols Medal of the American Chemical Society, and in 1925 this society also presented him with its Herty Medal.

Dr. Johnson strongly advocated a sound scientific education, preferably to include more than one degree, as valuable preparation for potential scientists. The time and effort spent on education accelerates the scientist's progress after he leaves school.

He was president of the Bethany Library Association, a director of the Bethwood Research Laboratory at Bethany, member of the National Academy of Sciences, the National Research Council, the Connecticut Academy of Sciences, the American Society of Biological Chemists, Alpha Chi Sigma, Sigma Xi, and of the educational advisory committee of the National Broadcasting Corporation.

He became a Fellow of THE AMERICAN INSTITUTE OF CHEMISTS in 1924, and served as its president from 1926 to 1928.

John Traquair

John Traquair, consultant to the Research and Development Department of The Mead Corporation, Chillicothe, Ohio, died in July 1947, at the age of sixty-nine.

He was born in Cardross, Scotland. He attended Dumbarton Burgh Academy, the Royal Technical College of Glasgow and the City Analysts' Laboratory. He then served for a year and a half as assistant chemist for Thomas Hinshelwood and Company, Oil and Color Works, at Glasgow. The next fifteen years were spent as research chemist and chemist

in charge of manufacturing for William Wotherspoon, Ltd., Glenfield Starch Works, Paisley, Scotland. From 1913 to 1920, Mr. Traquair was vice president of the Feculose Company of America, at Ayer, Massachusetts. In 1920, he joined the Mead Pulp and Paper Company, where he remained until his death.

He became a citizen of the United States in 1921. He held a number of patents on various phases of paper coating, pulp manufacture, development of magazine paper for high speed printing, and chlorination and bleaching processes. He contributed various articles to the technical journals, both here and abroad.

His society memberships included the American Chemical Society, the American Institute of Chemical Engineers, the Society of Chemical Industry, and the Technical Association of the Pulp and Paper Industry. He was a Charter member of THE AMERICAN INSTITUTE OF CHEMISTS, having joined as a Fellow in 1923.

Donlan is Member of International Relations Committee

Theodore R. Donlan, F.A.I.C., products technologist in charge of solvents, Foreign Marketing Department, Standard Oil Company (New Jersey), is a member of the Committee on International Relations recently established by the American Chemical Society.

Supplee Receives Borden Medal

Dr. G. C. Supplee, F.A.I.C., president of the G. C. Supplee Research Corporation, Bainbridge, New York, was awarded the 1947 Borden Company prize of $1,000 and a gold medal, at the American Chemical Society meeting in New York, September 15th, for his researches on the chemistry of milk.

Dr. Supplee was formerly associate director of research and head of the biological and chemical research of the Borden Company. He developed practical methods for commercial irradiation of milk; methods for packing milk powder in inert gas; procedures for the isolation of riboflavin from whey and milk sugar by-products, the study of casein and milk proteins in the control of peptic ulcers, and other researches on the chemistry and biology of milk.

He received the Billings Medal of the American Medical Association, in 1936, for his work on riboflavin. He is author of more than one- hundred technical papers on the chemistry and biology of milk and food products, and on nutrition.

Harold W. Sweatt, president of Minneapolis - Honeywell Regulator Company, manufacturers of industrial instruments, recently returned from Europe to report that Belgium appears to be making more progress on the road to recovery than any other war-torn European country.

COUNCIL

OFFICERS

President, Foster D. Snell
Vice-president, Joseph Mattiello
Secretary, Lloyd Van Doren
Treasurer, Frederick A. Hessel
Honorary Secretary, Howard S. Neiman

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L. V. Clark, *Western Pennsylvania Chapter*
Martin DeSimo, *Chicago Chapter*
Gustav Egloff, *Past President*
Eduard Farber, *Washington Chapter*
Edgar W. Fasig, *Miami Valley Chapter*
Harry L. Fisher, *Past President*
Lawrence H. Flett, *At-Large*
Donald B. Keyes, *At-Large*
Raymond E. Kirk, *At-Large*
Harold A. Levey, *Louisiana Chapter*
Herman Maisner, *Los Angeles Chapter*
J. M. McIlvain, *Pennsylvania Chapter*
John J. Miskel, *New York Chapter*
E. H. Northey, *At-Large*
Frank S. Mitchell, *Niagara Chapter*
Donald Price, *At-Large*
G. L. Royer, *New Jersey Chapter*
Norman A. Shepard, *At-Large*
Maurice Siegel, *Baltimore Chapter*
W. D. Turner, *At-Large*
Lincoln T. Work, *At-Large*
James R. Withrow, *At-Large*

September Meeting

The 239th meeting of the National Council of The American Institute of Chemists was held September 9, 1947, at The Chemists' Club, 50 East 41st Street, New York, N. Y. President Foster D. Snell presided.

The following officers and councilors were present: L. V. Clark, H. L. Fisher, L. H. Flett, F. A. Hessel, R. E. Kirk, J. J. Mattiello, J. M. McIlvain, J. J. Miskel, H. S. Neiman, E. H. Northey, G. L. Royer, N. A. Shepard, F. D. Snell, L. Van Doren, and L. T. Work. V. F. Kimball was present.

The minutes of the previous meet-

ing were accepted. The Treasurer's report was accepted and ordered filed.

The Secretary reported that since the annual meeting in May, 134 applications for membership have been received.

The Secretary announced that, since June 17th, he had been notified of the deaths of the following Fellows and Member:

C. Elwood Hayes, M.A.I.C.
Treat B. Johnson, F.A.I.C.
Raymond R. Ridgway, F.A.I.C.
Glen M. Smyth, F.A.I.C.
John Traquair, F.A.I.C.
Frank C. Whitmore, F.A.I.C.

A special vote of thanks was given to Dr. Norman A. Shepard for his efficient cooperation and service to the Committee on Annual Meeting Arrangements for 1947.

The dates of Council meetings for the current year were set for the third Tuesday of each month except April. In April the Council meeting will be held on the second Tuesday.

Letters from members of the Miami Valley Chapter were read. Mr. L. H. Flett was appointed as a committee to confer with this chapter.

A letter from Harold M. Olson in regard to the Northern Ohio Chapter was read, and the Secretary was instructed to encourage Mr. Olson in his efforts to further the work of this chapter.

Upon motion, it was voted that the INSTITUTE cooperate wherever possible with other scientific societies for the mutual advancement of the profession.

Mr. L. H. Flett was asked to serve as chairman of a committee to arrange a program for the joint meeting of the Syracuse section of the American Chemical Society and the INSTITUTE. Mr. Franklin H. Bivins and Mr. John J. Miskel were appointed as members of this committee.

In accordance with the request of a previous committee, Dr. Foster D. Snell reported that he had sent a letter to the Mayor of the City of New York asking him to consider the present salary status of the municipal chemists. The Mayor's office replied that this letter had been referred to the Director of the Budget. The Editor was asked to publish the correspondence in THE CHEMIST. (See page 419.)

A letter from the Washington Chapter concerning the previously proposed coalition was read, and the Secretary was asked to inform the Washington Chapter that the INSTITUTE had made every effort to arrange this coalition.

A request from the Department of Commerce for evaluators for German documents was presented. The Editor was asked to announce this in THE CHEMIST. (See page 386, September issue).

Dr. Snell announced that 1948 was the 25th anniversary year of the INSTITUTE. Dr. Joseph Mattiello was

appointed chairman of the Committee on Arrangements for the 1948 Annual Meeting of the INSTITUTE, and it was suggested that he consider the 25th anniversary celebration in these arrangements. It was agreed that a 25th anniversary number of THE CHEMIST should be prepared.

The following new members were elected:

Life Members

Chiego, Bernard
Consulting Chemist, Director of Research, Bernard Chiego & Associates, 139 Eighth Avenue, Newark 4, N. J.

Laurence, Dean
Patent Attorney, Laurence, Woodham & Mills, St. Johns, Michigan

Pennington, William A.
Chief Chemist and Metallurgist, Carrier Corporation, 300 South Geddes Street, Syracuse, N. Y.

Sterling, Edward C.
Owner, Edcan Laboratories, 10 Pine Street, South Norwalk, Conn.

Fellows

Blumenthal, Warren B.
Assistant Chief, Chemical Division, Titanium Alloy Manufacturing Company, Niagara Falls, N. Y.

Brown, Gordon C.
Chief Chemist, Durkee Atwood Company, 215 Seventh Street, N. E., Minneapolis, Minn.

Brown, Leland N.
Director, Leland Brown Laboratories, 306 South 69th Street, Upper Darbey, Pennsylvania

Carr, Charles J.
Associate Professor, Pharmacology, School of Medicine, University of Maryland, 29 South Greene Street, Baltimore, Maryland

Cauwenberg, Winfred J.
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National Council Meetings

Council meetings of The American Institute of Chemists will be held at The Chemists' Club, 52 East 41st Street, New York, N. Y., on the following dates:

October 14th
November 18th
December 16th
January 20th
February 17th
March 16th
April 13th

Raised from Member to Fellow

Entemann, Charles E.
Chief Chemist, Lucidol Division, Novadel-Agene Corporation, 1740 Military Road, Buffalo 5, New York

Raised from Associate to Member

Albert, John R.
Head of Chemical Laboratories, Duplan Corporation, 1245 White Street, Winston-Salem, North Carolina

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Oil Chemists to Meet in Chicago

The 21st Fall meeting of the American Oil Chemists' Society will be held in the Edgewater Beach Hotel, Chicago, Illinois, October 20th to 22nd, with. G. A. Crapple of Wilson and Company as general chairman.

For Your Library

PROTECTIVE AND DECORATIVE COATINGS, Vol. V: Analysis and Testing Methods. Edited by Joseph J. Mattiello. *John Wiley and Sons, Inc.*, 662 + x pp. 6" x 9¼". $7.00.

This fifth volume in the comprehensive series being published under Dr. Mattiello's editorship deals with several kinds of analytical procedures used in the coatings industry. Of the book's five chapters, two deal with resins and plastics, both natural and synthetic, and their investigation by the usual specific physical and chemical tests in conjunction with microscopical methods. One chapter is given to the analysis of drying oils by physical and chemical methods and another covers the laboratory testing of metal finishes intended for outdoor service. The fifth chapter deals with the reflectance characteristics of pigments as measured by photographic and spectrophotometric methods.

The resume of the contents shows that, despite the broad title of this volume, it deals with only three general classes of raw materials and one ultimate class of finishes. Within the subjects treated, the volume is up-to-date and authoritative and the methods are given in satisfactory detail. However, information about the testing of other raw materials and classes of finishes must be sought in the preceding volumes of the series where it is included under the general treatments of the subjects. For these reasons, a more truly descriptive title could be desired for this particular volume.

Comprehensive references and bibliographies, numerous illustrations and charts, and an extensive index add a great deal to the clarity and value of the book.

—W. A. Gloger

MODERN CHEMISTRY. SOME SKETCHES OF ITS HISTORICAL DEVELOPMENT. By A. J. Berry, M. A., *Cambridge University Press, (Macmillan Co., N. Y.)*, 1946. 240 pp. Price $2.50.

This is neither a systematic treatise on modern chemistry nor a chronological textbook on the history of chemistry, but it is a series of readable, entertaining and compact sketches of the developments in some of the newer branches of chemical science, aranged in the following order: Classical Atomic Theory; Electrochemistry; Stereochemistry; Radioactivity; Elements, Isotopes and Atomic Numbers; Some Experimental Studies on Gases; Some Problems of Solutions; Some Essential Features of Chemical Change; Retrospect.

Anyone with a moderate knowledge of chemistry could read this book with profit. Any one with a deep interest in chemistry will find enjoyment in the narrative style. The author himself betrays a profound interest in his subject, amounting perhaps to a deep affection. He also displays a keen sense of values, indicated in one instance by the space given to the discovery and identification of protoactinium, and the determination of its amount in the uranium minerals, by Otto Hahn and his co-workers, bearing in mind that the book was written in 1944, although published in 1946.

Another example of the author's prevision is found in his account of a chain reaction induced by radiation, the photochemical production of hydrogen chloride from hydrogen and chlorine: Bodenstein found in 1913 that one photon brings about the union of many thousands, even millions of molecules, whereas the Einstein theory of photochemical equivalence called for one molecule (at most) per photon absorbed. Bodenstein suggested a theory based upon a chain mechanism, which was given greater precision by Nernst, who described the process as consisting of a primary photochemical dissociation of hydrogen and chlorine into their atoms, followed by secondary reactions producing HCl and another hydrogen atom and chlorine atom which latter proceed to combine without photon absorption.

—Dr. E. E. Butterfield, F.A.I.C.

VOLUMETRIC ANALYSIS. Vol II—Titration Methods. By Kolthoff-Stenger. *Interscience Publishers, Inc.*, N. Y. 1947. 374 pp. $6.00.

This volume, which appeared in an English translation for the first time in 1929, has undergone substantial revision. Considering the development of volumetric analysis during the past decade, another addition of this excellent work is a welcome event.

Volume II of this book contains all of the material of the previous edition

with considerable additions and modifications. However, the oxidation-reduction titration, which formed a part of Volume II in the prior edition, is now reserved for a third volume.

The present volume is divided into three sections devoted to Apparatus and General Principles, Acid-Base Reactions, and Quantitative Precipitation and Complex-Formation Reactions, respectively. As stated in the preface, the authors did not intend to cover all applications of volumetric methods exhaustively but rather limited themselves to a selection of useful and reliable procedures of general interest. Notwithstanding this, it seems to this reviewer that the book should prove extremely helpful to anyone who has occasion to use volumetric procedures and as such, should be a useful addition to the chemical library.

Two tables of atomic and equivalent weights, together with "rational" values based on the work of Schoorl are included.

—William H. Van Delden, F.A.I.C.

New Magazine Features Nuclear Science

Nucleonics, a new magazine published by McGraw-Hill, 330 West 42nd Street, New York, N. Y., starts with the September, 1947, issue. It is devoted to news and information concerning research and development in nuclear science and technology.

THE SCIENTIFIC AMERICAN is Sold

The Scientific American, established in 1845 and owned by the Munn family for one-hundred years, has been sold to The Sciences, Inc., a newly created firm reportedly financed by Gerard Swope, John Hay Whitney, and Lessing J. Rosenwald. Editor Orson D. Munn is retiring to devote full time to the patent law firm of Munn, Liddy and Glaccum. Gerard Piel, a former science editor of *Life* is the new editor of *The Scientific American*. He is assisted by another former science editor of *Life*, Dennis Flanigan.

Dr. Gustav Egloff, F. A. I. C., is featured in the "Man of Science" column of *Science Illustrated* for September. The caption reads, "Five Egloffs —All Gustav. Some say that only by being quintuplets could Gus Egloff, walking encyclopedia of petroleum, do all the work he does."

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, etc.
REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, as Amended by the Acts of March 3, 1933, and July 2, 1946.

Of THE CHEMIST, published monthly at New York, N. Y. for October 1, 1947.

STATE OF NEW YORK } SS
COUNTY OF NEW YORK }

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Vera F. Kimball, editor, who, having been duly sworn according to the law, deposes and says that she is the Editor of THE CHEMIST and that the following is, to the best of her knowledge and belief, a true statement of the ownership, management (and if a daily, weekly, semiweekly, or tri-weekly newspaper the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Acts of March 3, 1933, and July 2, 1946 (section 537, Postal Laws and Regulations), printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Name of	Post Office Address
Publisher: THE AMERICAN INSTITUTE OF CHEMISTS,	60 E. 42nd St., New York 17, N.Y.
Editor: Vera F. Kimball,	60 E. 42nd St., New York 17, N. Y.

Managing Editor: None.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given; If owned by a firm, company, or other unin-

corporated concern, its name and address, as well as those of each individual member, must be given).

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5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the twelve months preceding the date above is——. (This information is required from daily weekly, semi-weekly and tri-weekly newspapers only.)

Vera F. Kimball
(Signature of Editor)

Sworn to and subscribed before me this fifth day of September, 1947.

Catherine M. Heider, Notary Public.
(My commission expires March 30, 1949)

Booklets

"Fifty Years of the Dow Chemical Company, Its Progress and its People." The history of Dow Chemical from 1890 to the present. Illustrated. Dow Chemical Company, Midland, Michigan.

"The Story Behind a Trade Mark." Description and information, illustrated, about The New Jersey Zinc Company, 160 Front Street, New York 7, N. Y.

"Aloyco Catalog No. 47", 54 pages of descriptive material on Aloyco valves and fittings, alloys, application data, and photographs. Request it from Alloy Steel Products Company, Linden, N. J.

"pHydrion Papers 0 - 14", leaflet describing pH test papers sold by Emil Greiner & Company, 161 Sixth Avenue, New York, N. Y.

The Commercial Intelligence Division of the U. S. Department of Commerce has made available, to American firms, mimeographed trade lists at $1.00 a list for each country. Among these are:

"Plastic Material Manufacturers and Molders of Plastic Products" —Argentina; Cuba; Palestine; Chile.

"Chemical Importers and Dealers" —Netherlands; Canada; Martinique; Paraguay.

"Electrical Supply and Equipment Importers and Dealers"— Finland; Bolivia.

"Tenite," 32-page revised booklet, illustrated, on cellulose ester thermoplastics made by the Tennessee Eastman Corporation, Kingsport, Tennessee.

"Periodica — Historisk Medicin og Medicinens Historie — Klinisk Medicin — Anatomi — Fysiologi, etc." special List no. 37. This list of periodicals for sale may be obtained from Boghallens Antikvariat A/S, Raadhuspladsen 37, Copenhagen, Denmark.

"Industrial Electronics", a six page leaflet describing the electronic and electromechanical automatic machinery and machine process controls which are manufactured by John T. O'Connor and Company, 168 South Valley Road, West Orange, New Jersey.

"SKF New Bearing Catalog." A 60 page catalog of machine tool bearings and spindle designs. SKF Industries, Inc., P. O. Box No. 6731, North Philadelphia 32, Penna.

"Colorimetry—a Handbook of the Lovibond Tintometer". A 24-page booklet, plus price list, and list of uses of tintometer apparatus. Request it from The Tintometer, Ltd., Salisbury, England.

"Chemicals Catalog R". A 96-page list of CP, USP, and technical reagents, indicators, stains and dyes, culture media and solutions. Sent free, on request to Central Scientific Company, Department Q, 1700 Irving Park Road, Chicago 13, Illinois.

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Chemical Condensates

Ed. F. Degering, F.A.I.C.

The constitution of man is such that for a long time after he has discovered the incorrectness of the ideas prevailing around him he shirks from openly emancipating himself from their domination; and, constrained by the force of circumstances, he publicly applauds what his private judgment condemns.

——J. W. Draper

"Higher education," according to President Frederick L. Hovde of Purdue University, "is the Nation's first line of defense."

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—The Editors' Digest

The U. S. production of penicillin during 1946 reached an all time high of 25,808.57 billion oxford units.

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